

Appl. No. 10/829,324
Reply Filed: August 8, 2007
Reply to Final Office Action of: February 8, 2007

AMENDMENTS TO THE CLAIMS

Claims 10, 22-29, 39, 51-58, 68 and 80-87, of which claims 10, 22, 39, 51, 68 and 80 are independent, are currently pending in the application. This listing of claims replaces all previous versions and listings of claims:

1-9. Cancelled.

10. (Currently Amended) A method for processing video data to produce an effect to occur at a future time, comprising:
- implementing an application thread, an upload thread, a decoding thread, a render thread, and a presenter thread;
 - passing the video data to the application thread for creating the effect to be added to the video data, generating pre-decompressed video data from the video data, and determining parameters which describe the effect;
 - passing the pre-decompressed video data to the upload thread for uploading the pre-decompressed video data into video hardware;
 - passing the pre-decompressed video data to the decoding thread for decoding the pre-decompressed video data to produce decoded video data;
 - passing the decoded video data to the render thread rendering the effect in the decoded video data to produce output video data;
 - passing the output video data to the presenter thread to present the output video data;
 - wherein the application thread performs:
 - reading a sample of the video data; allocating a sample object for the sample;
 - partially decoding the sample to produce the pre-decompressed video data; and
 - transferring the sample object to the upload thread
 - wherein the upload thread performs:
 - obtaining a video memory surface; issuing a first snooping command; and
 - uploading the pre-decompressed video data into the video memory surface
 - wherein the decoder thread performs:

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issuing a second snooping command; obtaining a new video memory surface;
determining a status of the new video memory surface; performing the decoding
to produce the decoded video data in the new video memory surface; and
attaching the new video memory surface to the sample object
wherein the application thread further performs:
determining, in the application, effect parameters for the effect; and passing the
effect parameters from the application to the render thread;
~~The method according to claim 9,~~
wherein the output sample object is a proxy.

11-21. Cancelled.

22. (Currently Amended) A method for processing video data to produce an effect to occur
at a future time, comprising the steps of:
receiving the video data;
creating the effect; generating pre-decompressed video data from the video data;
uploading the pre-decompressed video data into video hardware;
decoding the pre-decompressed video data to produce decoded video data;
determining parameters which describe the effect;
rendering the effect in the decoded video data to produce output video data;
presenting the output video data; and
releasing resources utilized in decoding and rendering;
wherein the steps of creating the effect, generating pre-decompressed video, and
determining parameters are performed by an application;
wherein the steps of uploading the pre-decompressed video, decoding the pre-
decompressed video data, rendering the effect, and releasing resources are performed by
a 3D-Server; and
~~The method according to claim 17,~~
wherein generating pre-decompressed video data from the video data comprises:
reading a sample of the video data; allocating a sample object for the sample; partially

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decoding the sample to produce the pre-decompressed video data; and transferring the sample object to the 3D-Server.

23. (Original) The method according to claim 22, wherein uploading the pre-decompressed video data into video hardware comprises: obtaining a video memory surface; issuing a first snooping command; and uploading the pre-decompressed video data into the video memory surface.
24. (Original) The method according to claim 23, wherein the pre-decompressed video data is uploaded into the video memory surface using a Bus Mastering process.
25. (Original) The method according to claim 23, wherein decoding the pre-decompressed video data to produce decoded video data comprises:
 - issuing a second snooping command; obtaining a new video memory surface;
 - determining a status of the new video memory surface;
 - performing the decoding to produce the decoded video data in the new video memory surface; and
 - attaching the new video memory surface to the sample object.
26. (Original) The method according to claim 25, further comprising: determining, in the application, parameters for the effect; passing the effect parameters from the application to the 3D-Server; and receiving, in the application, an output sample object.
27. (Original) The method according to claim 26, wherein the output sample object is a proxy.
28. (Original) The method according to claim 26, wherein rendering the effect in the decoded video data to produce output video data comprises: assigning a target memory surface to the output sample object; rendering the effect; and storing the rendered effect in the target memory surface.

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29. (Original) The method according to claim 28, wherein outputting the output video data comprises:

placing the output sample object in a presenter queue; and performing a presenter method to present the output sample object as the output video data.

30-38. Cancelled.

39. (Currently Amended) A system for processing video data to produce an effect to occur at a future time, comprising:

means for implementing an application thread for creating the effect to be added to the video data, generating pre-decompressed video data from the video data, and determining parameters which describe the effect;

means for implementing an upload thread for uploading the pre-decompressed video data into video hardware;

means for implementing a decoding thread for decoding the pre-decompressed video data to produce decoded video data;

means for implementing a render thread rendering the effect in the decoded video data to produce output video data; and

means for implementing a presenter thread presenting the output video data;

wherein the means for implementing the application thread comprises: means for reading a sample of the video data; means for allocating a sample object for the sample; means for partially decoding the sample to produce the pre-decompressed video data; and means for transferring the sample object to the upload thread;

wherein the means for implementing the upload thread comprises: means for obtaining a video memory surface; means for issuing a first snooping command; and means for uploading the pre-decompressed video data into the video memory surface;

wherein the means for implementing the decoder thread comprises: means for issuing a second snooping command; means for obtaining a new video memory surface; means for determining a status of the new video memory surface; means for performing the decoding to produce the decoded video data in the new video memory surface; and means for attaching the new video memory surface to the sample object;

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wherein the means for implementing the application thread further comprises:
means for determining, in the application, effect parameters for the effect; means for
passing the effect parameters from the application to the render thread; and
~~The system according to claim 38;~~
wherein the output sample object is a proxy.

40-50. (Cancel)

51. (Currently Amended) A system for processing video data to produce an effect to occur at
a future time, comprising: means for receiving the video data; means for creating the
effect; means for generating pre-decompressed video data from the video data; means for
uploading the pre-decompressed video data into video hardware; means for decoding the
pre-decompressed video data to produce decoded video data; means for determining
parameters which describe the effect; means for rendering the effect in the decoded video
data to produce output video data; means for presenting the output video data; and means
for releasing resources utilized in decoding and rendering;

wherein the means for creating the effect, means for generating pre-decompressed
video, and means for determining parameters are an application;

wherein the means for uploading the pre-decompressed video, means for
decoding the pre-decompressed video data, means for rendering the effect, and means for
releasing resources are a 3D-Server; and

~~The system according to claim 46;~~

wherein the means for generating pre-decompressed video data from the video data comprises: means for reading a sample of the video data; means for allocating a sample object for the sample; means for partially decoding the sample to produce the pre-decompressed video data; and means for transferring the sample object to the 3D-Server.

52. (Original) The system according to claim 51, wherein the means for uploading the pre-decompressed video data into video hardware comprises: means for obtaining a video memory surface; means for issuing a first snooping command; and means for uploading the pre-decompressed video data into the video memory surface.

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53. (Original) The system according to claim 52, wherein the pre-decompressed video data is uploaded into the video memory surface using a Bus Mastering process.
54. (Original) The system according to claim 52, wherein the means for decoding the pre-decompressed video data to produce decoded video data comprises: means for issuing a second snooping command; means for obtaining a new video memory surface; means for determining a status of the new video memory surface; means for performing the decoding to produce the decoded video data in the new video memory surface; and means for attaching the new video memory surface to the sample object.
55. (Original) The system according to claim 54, further comprising: means for determining, in the application, parameters for the effect; means for passing the effect parameters from the application to the 3D-Server; and means for receiving, in the application, an output sample object.
56. (Original) The system according to claim 55, wherein the output sample object is a proxy.
57. (Original) The system according to claim 55, wherein the means for rendering the effect in the decoded video data to produce output video data comprises: means for assigning a target memory surface to the output sample object; means for rendering the effect; and means for storing the rendered effect in the target memory surface.
58. (Original) The system according to claim 57, wherein the means for outputting the output video data comprises: means for placing the output sample object in a presenter queue; and means for performing a presenter method to present the output sample object as the output video data.
- 59-67. (Cancel)

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68. (Currently Amended) A computer readable medium including instructions for causing a computer system to execute a method for processing video data to produce an effect to occur at a future time, comprising: implementing an application thread for creating the effect to be added to the video data, generating pre-decompressed video data from the video data, and determining parameters which describe the effect; implementing an upload thread for uploading the pre-decompressed video data into video hardware; implementing a decoding thread for decoding the pre-decompressed video data to produce decoded video data; implementing a render thread rendering the effect in the decoded video data to produce output video data; and implementing a presenter thread presenting the output video data;

wherein implementing the application thread comprises: reading a sample of the video data; allocating a sample object for the sample; partially decoding the sample to produce the pre-decompressed video data; and transferring the sample object to the upload thread;

wherein implementing the upload thread comprises: obtaining a video memory surface; issuing a first snooping command; and uploading the pre-decompressed video data into the video memory surface;

wherein implementing the decoder thread comprises: issuing a second snooping command; obtaining a new video memory surface; determining a status of the new video memory surface; performing the decoding to produce the decoded video data in the new video memory surface; and attaching the new video memory surface to the sample object;

wherein implementing the application thread further comprises: determining, in the application, effect parameters for the effect; passing the effect parameters from the application to the render thread; and

The computer readable medium according to claim 67, wherein the output sample object is a proxy.

69-79. (Cancel)

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80. (Currently Amended) A computer readable medium including instructions for causing a computer system to execute a method for processing video data to produce an effect to occur at a future time, comprising the steps of: receiving the video data; creating the effect; generating pre-decompressed video data from the video data; uploading the pre-decompressed video data into video hardware; decoding the pre-decompressed video data to produce decoded video data; determining parameters which describe the effect; rendering the effect in the decoded video data to produce output video data; presenting the output video data; and releasing resources utilized in decoding and rendering;
wherein the steps of creating the effect, generating pre-decompressed video, and determining parameters are performed by an application;
wherein the steps of uploading the pre-decompressed video, decoding the pre-decompressed video data, rendering the effect, and releasing resources are performed by a 3D-Server; and
The computer readable medium according to claim 75;
wherein generating pre-decompressed video data from the video data comprises: reading a sample of the video data; allocating a sample object for the sample; partially decoding the sample to produce the pre-decompressed video data; and transferring the sample object to the 3D-Server.
81. (Original) The computer readable medium according to claim 80, wherein uploading the pre-decompressed video data into video hardware comprises: obtaining a video memory surface; issuing a first snooping command; and uploading the pre-decompressed video data into the video memory surface.
82. (Original) The computer readable medium according to claim 81, wherein the pre-decompressed video data is uploaded into the video memory surface using a Bus Mastering process.
83. (Original) The computer readable medium according to claim 81, wherein decoding the pre-decompressed video data to produce decoded video data comprises: issuing a second snooping command; obtaining a new video memory surface; determining a status of the

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new video memory surface; performing the decoding to produce the decoded video data in the new video memory surface; and attaching the new video memory surface to the sample object.

84. (Original) The computer readable medium according to claim 83, further comprising: determining, in the application, parameters for the effect; passing the effect parameters from the application to the 3D-Server; and receiving, in the application, an output sample object.
85. (Original) The computer readable medium according to claim 84, wherein the output sample object is a proxy.
86. (Original) The computer readable medium according to claim 84, wherein rendering the effect in the decoded video data to produce output video data comprises: assigning a target memory surface to the output sample object; rendering the effect; and storing the rendered effect in the target memory surface.
87. (Original) The computer readable medium according to claim 86, wherein outputting the output video data comprises: placing the output sample object in a presenter queue; and performing a presenter method to present the output sample object as the output video data.